contd. A3 B1 Cont

R^4, at each occurrence, is selected from C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, $(CR'R')_rC_{3-6}$ cycloalkyl, Cl, Br, I, F, NO_2, CN, $(CR'R')_rNR^{4a}R^{4a}$, $(CR'R')_rOH$, $(CR'R')_rOR^{4d}$, $(CR'R')_rSH$, $(CR'R')_rSR^{4d}$, $(CR'R')_rC(O)OH$, $(CR'R')_rC(O)R^{4b}$, $(CR'R')_rC(O)NR^{4a}R^{4a}$, $(CR'R')_rNR^{4f}C(O)R^{4b}$, $(CR'R')_rC(O)OR^{4d}$, $(CR'R')_rOC(O)R^{4b}$, $(CR'R')_rNR^{4f}C(O)OR^{4d}$, $(CR'R')_rOC(O)NR^{4a}R^{4a}$, $(CR'R')_rNR^{4a}C(O)NR^{4a}R^{4a}$, $(CR'R')_rS(O)_pR^{4b}$, $(CR'R')_rS(O)_2NR^{4a}R^{4a}$, $(CR'R')_rNR^{4f}S(O)_2R^{4b}$, $(CR'R')_rNR^{4f}S(O)_2$ $NR^{4a}R^{4a}$, C_{1-6} haloalkyl, and $(CR'R')_r$phenyl substituted with 0-3 R^{4e};

alternatively, two R^4 on adjacent atoms join to form $-O-(CH_2)-O-$;

R^{4a}, at each occurrence, is independently selected from H, methyl, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, and a $(CH_2)_r$-C_{3-6} carbocyclic residue selected from cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl;

R^{4b}, at each occurrence, is selected from methyl, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, a $(CH_2)_r$-C_{3-6} carbocyclic residue substituted with 0-3 R^{4e}, wherein the carbocyclic residue is selected from cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl, and a $(CH_2)_r$-

contd. a3

B1 Cont

5-6 membered heterocyclic system containing 1-4 heteroatoms selected from N, O, and S, substituted with 0-2 R^{4e}, wherein the heterocyclic system is selected from pyridinyl, thiophenyl, furanyl, indazolyl, benzothiazolyl, benzimidazolyl, benzothiophenyl, benzofuranyl, benzoxazolyl, benzisoxazolyl, quinolinyl, isoquinolinyl, imidazolyl, indolyl, indolinyl, isoindolyl, isothiadiazolyl, isoxazolyl, piperidinyl, pyrrazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl, tetrazolyl, thiadiazolyl, thiazolyl, oxazolyl, pyrazinyl, and pyrimidinyl;

R^{4d}, at each occurrence, is selected from H, methyl, CF_3, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, and a $(CH_2)_r$-C_{3-6} carbocyclic residue selected from cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl;

R^{4e}, at each occurrence, is selected from C_{1-6} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, $(CH_2)_rC_{3-6}$ cycloalkyl, Cl, F, Br, I, CN, NO_2, $(CF_2)_rCF_3$, $(CH_2)_rOC_{1-5}$ alkyl, OH, SH, $(CH_2)_rSC_{1-5}$ alkyl, $(CH_2)_rNR^{4f}R^{4f}$, and $(CH_2)_r$phenyl;

R^{4f}, at each occurrence, is selected from H, methyl, ethyl, propyl, i-propyl, butyl, and cyclopropyl, cyclobutyl, and phenyl;

R^5, at each occurrence, is selected from methyl, ethyl, propyl, i-propyl, butyl, i-butyl, s- butyl, t-butyl, pentyl, hexyl, $(CR'R')_rC_{3-6}$ cycloalkyl, Cl, Br, I, F,

contd. a^3 b^1 Cont

NO_2, CN, $(CR'R')_rNR^{5a}R^{5a}$, $(CR'R')_rOH$, $(CR'R')_rOR^{5d}$, $(CR'R')_rSH$, $(CR'R')_rC(O)H$, $(CR'R')_rSR^{5d}$, $(CR'R')_rC(O)OH$, $(CR'R')_rC(O)R^{5b}$, $(CR'R')_rC(O)NR^{5a}R^{5a}$, $(CR'R')_rNR^{5f}C(O)R^{5b}$, $(CR'R')_rC(O)OR^{5d}$, $(CR'R')_rOC(O)R^{5b}$, $(CR'R')_rNR^{5f}C(O)OR^{5d}$, $(CR'R')_rOC(O)NR^{5a}R^{5a}$, $(CR'R')_rNR^{5a}C(O)NR^{5a}R^{5a}$, $(CR'R')_rNR^{7a}C(O)NR^{7a}R^{7a}$, $(CR'R')_rNR^{7a}C(O)O(CR'R')_rR^{7d}$, $(CR'R')_rS(O)_pR^{5b}$, $(CR'R')_rS(O)_2NR^{5a}R^{5a}$, $(CR'R')_rNR^{5f}S(O)_2R^{5b}$, C_{1-6} haloalkyl, and $(CHR')_r$phenyl substituted with 0-3 R^{5e};

alternatively, two R^5 on adjacent atoms join to form $-O-(CH_2)-O-$;

R^{5a}, at each occurrence, is independently selected from H, methyl, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, and a $(CH_2)_r$-C_{3-10} carbocyclic residue substituted with 0-1 R^{5e}, wherein the carbocyclic residue is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl and naphthyl;

R^{5b}, at each occurrence, is selected from methyl, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, a $(CH_2)_r$-C_{3-6} carbocyclic residue selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, and phenyl; and a $(CH_2)_r$-5-6 membered heterocyclic system containing 1-4

contd. a3

B1 cont

heteroatoms selected from N, O, and S, wherein the heterocyclic system is selected from pyridinyl, thiophenyl, furanyl, indazolyl, azetidinyl, benzothiazolyl, benzimidazolyl, benzothiophenyl, benzofuranyl, benzoxazolyl, benzisoxazolyl, quinolinyl, isoquinolinyl, imidazolyl, indolyl, indolinyl, isoindolyl, isothiadiazolyl, isoxazolyl, morphlinyl, piperidinyl, pyrrolyl, 2,5-dihydropyrrolyl, pyrrazolyl, 1,2,4-triazolyl, 1,2,3-triazolyl, tetrazolyl, thiadiazolyl, thiazolyl, oxazolyl, pyrazinyl, and pyrimidinyl;

R^{5d}, at each occurrence, is selected from H, methyl, CF_3, ethyl, propyl, i-propyl, butyl, s-butyl, i-butyl, t-butyl, pentyl, hexyl, allyl, propargyl, and a $(CH_2)_r$-C_{3-6} carbocyclic residue selected from cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl;

R^{5e}, at each occurrence, is selected from C_{1-6} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, $(CH_2)_rC_{3-6}$ cycloalkyl, Cl, F, Br, I, CN, NO_2, $(CF_2)_rCF_3$, $(CH_2)_rOC_{1-5}$ alkyl, OH, SH, $(CH_2)_rSC_{1-5}$ alkyl, $(CH_2)_rNR^{4f}R^{4f}$, and $(CH_2)_r$phenyl; and

R^{5f}, at each occurrence, is selected from H, methyl, ethyl, propyl, i-propyl, butyl, and cyclopropyl, cyclobutyl, and phenyl.

a4

13. (AMENDED) The compound of claims 11-12, wherein

contd. A4

X is $CHR^{16}NR^{17}$;

R^5 is selected from methyl, ethyl, propyl, i-propyl, butyl, i-butyl, s-butyl, pentyl, hexyl, CF_3, CF_2CF_3, CF_2H, OCF_3, Cl, Br, I, F, SCF_3, $NR^{5a}R^{5a}$, $NHC(O)OR^{5a}$, $NHC(O)R^{5b}$, and $NHC(O)NHR^{5a}$; and

B1 Cont

R^{12} is selected from H and methyl;

Z is -C(O)-;

R^1 is selected from phenyl substituted with 0-3 R^4, and a 5-10 membered heteroaryl system substituted with 0-2 R^4, wherein the heteroaryl is selected from indolyl, and pyridyl;

R^2 is phenyl substituted with 0-2 R^5;

R^3 is selected from $(CRR)_qOH$, $(CRR)_qOR^{3d}$, $(CH_2)_rC(O)OH$, $(CH_2)_rC(O)NR^{3a}R^{3a}$, $(CHR)_rC(O)NR^{3a}OR^{3d}$, $(CH_2)C(O)R^{3b}$, $(CH_2)_rC(O)OR^{3d}$, and (CH_2)-phenyl;

alternatively, R^3 and R^{12} join to form cyclopropyl, cyclopentyl or cyclohexyl;

R^{3a} is selected from H, methyl, ethyl, propyl, i-propyl, butyl, i-butyl, s-butyl, t-butyl, allyl, CH_2CF_3, $C(CH_3)CH_2CH_2OH$, cyclopropyl, 1-methylcyclopropyl,

contd. a4

cyclobutyl, cyclopentyl, cyclohexyl, phenyl, and benzyl;

B1 Cont

R^{3b} is selected from pyrrolidinyl, pyrrolid-3-enyl, and morpholinyl;

R^{3d} is selected from methyl, ethyl, propyl, i-propyl, butyl, i-butyl, t-butyl and benzyl;

R is selected from H, methyl, ethyl, propyl, i-propyl, butyl, i-butyl, s-butyl, pentyl, neopentyl, phenyl and benzyl;

R^4 is selected from methyl, ethyl, propyl, i-propyl, butyl, ethylene, OCH_3,OCF_3, SCH_3, SO_2CH_3, Cl, F, Br, CN;

alternatively, two R^4 join to form $-O-(CH_2)-O-$;

R^6 is selected from H, methyl, ethyl, propyl, i-propyl, butyl, $C(O)OCH_3$, $C(O)NHCH_2CH_3$;

R^7, R^9, and R^{11} are H;

R^8 is H;

R^{10} is selected from H and methyl;

R^{16} is selected from H and methyl;

R^{17} is selected from H and methyl;